

[Manuals.plus](#) /

› [ClimaTek](#) /

› ClimaTek 50V51-507 2-Stage Furnace Control Circuit Board Module User Manual

ClimaTek 50V51-507

ClimaTek 50V51-507 2-Stage Furnace Control Circuit Board Module User Manual

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the ClimaTek 50V51-507 2-Stage Furnace Control Circuit Board Module. It is designed to assist qualified technicians with installation, operation, and maintenance procedures. Please read this manual thoroughly before attempting any installation or service.

This product is an upgraded replacement for specific White Rodgers 2-stage furnace control circuit board modules.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a qualified installer, service agency, or gas supplier.

- Always disconnect electrical power to the furnace before installing or servicing this control board.
- Ensure all wiring connections are secure and comply with local and national electrical codes.
- Do not operate the furnace with damaged wiring or components.
- Wear appropriate personal protective equipment (PPE) during installation and service.

3. PRODUCT OVERVIEW

The ClimaTek 50V51-507 is a high-quality replacement circuit board designed for 2-stage furnace control systems. It manages the various functions of a furnace, including ignition, fan operation, and safety limits, ensuring efficient and reliable heating.



Figure 1: ClimaTek 50V51-507 2-Stage Furnace Control Circuit Board Module. The green circuit board features various electronic components, relays, and terminal blocks for wiring connections. Included are two white wiring harnesses and a flame sensor with a white wire.

Key features include:

- Direct replacement for compatible White Rodgers 2-stage furnace control boards.
- Manages 2-stage heating operation for improved comfort and efficiency.
- Integrated safety features to protect the furnace and occupants.

4. SETUP AND INSTALLATION

Installation of this control board should only be performed by a qualified HVAC technician. Follow these general steps:

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage meter.
2. **Access Old Board:** Open the furnace access panel and locate the existing control board.
3. **Document Wiring:** Carefully label all wires connected to the old control board before disconnecting them. Take photographs for reference if necessary.
4. **Remove Old Board:** Disconnect all wires and mounting screws, then remove the old control board.
5. **Install New Board:** Mount the ClimaTek 50V51-507 board in the same location as the old board, securing it with appropriate fasteners.
6. **Connect Wiring:** Reconnect all wires to the new control board according to your labels and photographs. Ensure all connections are tight and correct. Pay close attention to the terminal block labels (e.g., L, Y, W, R, G, C, O).
7. **Verify Flame Sensor:** If replacing the flame sensor, ensure it is correctly installed and positioned.
8. **Restore Power:** Close the furnace access panel and restore electrical power to the furnace.
9. **Test Operation:** Initiate a heating cycle to verify proper furnace operation, including ignition, fan, and safety cutoffs.

5. OPERATING INSTRUCTIONS

The ClimaTek 50V51-507 control board operates automatically in conjunction with your furnace and thermostat. Once

correctly installed, it will manage the furnace's heating cycles based on the thermostat's demand.

- **2-Stage Heating:** This board supports 2-stage heating. In a 2-stage system, the furnace typically starts at a lower heat output (first stage) for longer, more even heating. If the thermostat continues to call for heat, the furnace will switch to a higher heat output (second stage) to meet the demand more quickly.
- **Fan Operation:** The board controls the furnace blower fan for both heating and cooling cycles, as well as continuous fan operation if selected on the thermostat.
- **Safety Monitoring:** The board continuously monitors various safety sensors (e.g., flame sensor, limit switches) to ensure safe operation. If a fault is detected, it will shut down the furnace and may display a diagnostic code.

6. MAINTENANCE

The ClimaTek 50V51-507 control board is a sealed electronic component and requires no routine user maintenance. For optimal furnace performance and longevity of all components, it is recommended to:

- Ensure the furnace area remains clean and free of dust and debris.
- Schedule annual professional furnace inspections and servicing.
- Replace furnace air filters regularly as recommended by your furnace manufacturer.

7. TROUBLESHOOTING

If your furnace is not operating correctly after installing the ClimaTek 50V51-507 control board, consider the following:

- **No Power:** Check the circuit breaker for the furnace and ensure the furnace door switch is engaged.
- **Incorrect Wiring:** Double-check all wiring connections against your documentation and the furnace wiring diagram. Loose or incorrect connections are common issues.
- **Diagnostic Codes:** Many control boards have LED indicators that flash diagnostic codes. Consult your furnace's specific manual for interpreting these codes.
- **Flame Sensor Issues:** A dirty or faulty flame sensor can prevent ignition. Ensure it is clean and properly connected.
- **Thermostat Malfunction:** Verify the thermostat is calling for heat and is functioning correctly.

If troubleshooting steps do not resolve the issue, contact a qualified HVAC technician for further diagnosis and repair.

8. SPECIFICATIONS

- **Model:** 50V51-507
- **Brand:** ClimaTek
- **Product Dimensions:** 8 x 6 x 12 inches
- **Weight:** Approximately 1.63 Pounds
- **Manufacturer:** White Rodgers (as original equipment manufacturer for replacement part)
- **ASIN:** B08299Z5N2
- **First Available:** December 3, 2019

9. WARRANTY AND SUPPORT

For warranty information and technical support regarding your ClimaTek 50V51-507 2-Stage Furnace Control Circuit Board Module, please refer to the documentation provided at the time of purchase or contact your seller directly. ClimaTek is the brand for this replacement part.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B08299Z5N2>

More documents and user manuals: <https://manuals.plus/>